

A machine in the C-suite

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A black and white photograph of a chessboard. In the center, a king piece is rendered as a glowing white wireframe, standing out from the other solid black pieces. A large, bright red arrow points from the bottom right towards the center, partially overlapping the text below.

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Will intelligent machines ever be more than just decision-support tools? Could they someday have a seat in the C-suite?

We are approaching the era when the collaboration between humans and intelligent machines will be a source of competitive advantage for businesses. We have moved past the period of computers being merely passive assistants. Intelligent machines are now becoming active advisors and partners in the workforce of the future, and that includes their presence at the highest levels of the organization.¹

Exactly what types of roles should intelligent machines play as members of the C-suite? To answer that, we conducted in-depth interviews with over 35 senior executives who were responsible for the digital transformation of their organization.² We identified three fundamental ways in which intelligent machines could greatly enhance the performance of C-suite teams:

- Change the mindset from incrementalism to experimentation,
- Help shape strategy, and
- Challenge the status quo, including sacred cows.

A continuum of roles for a machine in your C-suite

| | Assistant | Advisor | Actor |
|-----------------------|---|--|--|
| Value to the business | <ul style="list-style-type: none"> • Creating scorecards • Maintaining reports • Monitoring the environment | <ul style="list-style-type: none"> • Answering questions • Building scenarios • Generating options | <ul style="list-style-type: none"> • Evaluating options • Making decisions • Budgeting and planning |
| Value to the team | <ul style="list-style-type: none"> • Taking notes • Communicating and scheduling • Following up on decisions | <ul style="list-style-type: none"> • Facilitating meetings • Analyzing team behaviors • Recommending team roles | <ul style="list-style-type: none"> • Evaluating team dynamics • Challenging status quo |

Passive ←————→ Active

Source: Accenture Strategy analysis, 2016

From incrementalism to experimentation

Intelligent machines can enable top management to rapidly perform “what if” simulations to explore different scenarios and innovative approaches, even those that might at first seem impractical. These advances will make it possible for top executives, who do not have the luxury of time, to get glimpses of possible futures and avoid hastily dismissing options that might appear too complex.

According to Guillaume Sachet, head of strategic planning for MediaCorp, the Singapore-based news and entertainment company, one of the major benefits of intelligent machines is that they encourage a change in management mindset from incrementalism to active experimentation and innovation.

“You have to say, ‘Yes, now we are in experimentation mode,’” notes MediaCorp’s Sachet. “We need to get feedback. We need to be nimble because we need to quickly incorporate feedback into our thinking.”

By enhancing decision-making speed and encouraging reflection on alternative futures, intelligent machines can help top teams to be agile in the way software developers have become. Rather than be constrained by the need to know everything before proceeding, teams will be able to explore decision spaces, experiment through simulations as well as systematic sampling, and advance in sync with customers—rather than waiting until it is too late to decide.

Shaping strategy

Organizations will soon be training computers to think systemically—to look both upstream and downstream to determine the potential consequences of managerial decisions. Intelligent machines will leverage historical data to help executives avoid repeating mistakes that occurred before their watch, and to search out parallel situations in other organizations and even other industries in order to identify any unanticipated consequences of a proposed strategy. Such tools have already proven their worth in a wide variety of settings, including security, supply chain management and financial transactions, to name a few. From our interviews with senior executives, we found that:

Nearly two-thirds believe that the ubiquity of suggestion tools and inference engines will open the doors to the more active use of intelligent machines for strategy and decision-making.

Because intelligent machines have the potential to explore the next-generation consequences of a decision, they can enable leaders to anticipate problems early on. Helping management to fine-tune their strategic decisions enables a different quality of discussion about business strategy. One executive characterizes these conversations as "generative"—they encourage joint exploration of a decision space—as compared to "percussive" conversations that figuratively (and sometimes literally) consist of participants pounding on the table to get attention to his or her point of view.

Intelligent machines can do more than just accelerate the review of strategic options. In the not too distant future, they will also look for openings in the market—differences that signal growth opportunities—in much the same way that programmed trading does in currency and stock markets. They will also be trained to look for parallels in adjacent markets.

Already game-theoretic tools are being used widely in capital markets and we anticipate that they will start stimulating strategic moves into underserved markets for other products and services. Intelligent machines will become key for strategy making and not just strategy evaluation.

Questioning sacred cows

Intelligent machines also have the potential to be objective observers—even coaches—for top teams, asking tough questions, challenging sacred cows, and uncovering flawed assumptions. Over half the executives we interviewed consider intelligent machines essential to fact-based decision-making, even when the facts they unearth and the patterns they discern challenge cherished ways of thinking and behaving. One CMO of a postal organization described it this way:

"I have 40 years in my organization and I'd put my business knowledge up against anyone in the company. One thing I've learned on this little journey of big data analytics is that I can be wrong. So I trust the data now."

Moreover, intelligent machines can help ask important—and often uncomfortable—questions that need to be addressed. "My sense is that the technology may be at the cutting edge of knowing what questions need to be asked," says Michael Palmer, chief innovation and digital officer at insurance giant Aetna. "Not only will they test hypotheses, they will have the potential to create hypotheses, based on the data."

Another potential role for intelligent machines is that of a neutral observer—whose astute powers of observation make it possible to improve the decision-making process used by a team. Amazon executive Jeff Wilke believes that soon he'll have intelligent tools that can "analyze and improve how we make decisions—whether it's an app that observes in the background or intervenes directly in team discussions." An intelligent machine could note, for example, who tends to speak the most in a meeting discussion and in what order. By analyzing such data, an organization could learn what style of discussion tends to result in good decisions and breakthroughs. It could also help identify various decision-making traps (e.g., the types of exchanges that tend to lead to dead-ends or groupthink).

Realizing the intelligence of intelligent machines

Executives can realize the greatest benefit from intelligent machines in the following ways.

Expose the long-term implications of short-term decisions

Executives can use intelligent machines to enhance systemic thinking. In an uncertain and turbulent business environment, it's easy to overlook the long-term implications of short-term decisions, particularly when the current conditions have been shaped by events and decisions that occurred before the incumbent executives entered their roles.

It's also common to overlook the ways in which seemingly distinct entities, such as economic and ecological systems, can interact to produce negative outcomes e.g., the increased sales of shampoo in small sachets that leads to fragile sewer systems being clogged by the discarded sachets. Intelligent machines can help identify such unanticipated consequences.

Experiment to uncover new sources of value

Top executives will use intelligent machines to discover new sources of value through rapid experimentation, carrying out structured experiments at low cost and high speed. C-suite teams that use intelligent machines in this way will be able to consider a much broader range of alternative actions without subjecting the organization to unnecessary risk. For example, computer models could be used to simulate the impact of large events, like the potential acquisition of a rival.

Augment human judgment

C-suite teams can use intelligent machines to make the most of human judgment. Part of that process is to help humans avoid common decision-making traps, like the tendency toward groupthink, and intelligent machines as objective observers can certainly be an invaluable aid in that regard. In addition, because of their capacity to run countless “what if” experiments, computers can help executives better test and fine-tune their human judgment in identifying and resolving various cultural, moral and ethical issues for different scenarios.

In essence, intelligent machines should be used for what they do best—e.g., leveraging the objective “outsider” status and observational skills to optimize team behaviors. This will then free humans to focus on what they do best—such as applying judgment skills. In the past, the caveat about computers was “garbage in, garbage out.” Today, the corresponding corollary is that in the workforce of the future intelligent machines only become “intelligent” when people know how best to use them.

Checklist: Are you ready for a machine in your C-suite?

Team culture



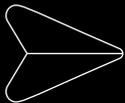
- Are you prepared to let data drive decision outcomes?
- Do you trust the data your systems generate?
- Are you comfortable using experimentation and rapid prototyping as a foundation to business decision-making?

Talent



- Have you identified the talent skills (data science, statistical reasoning, systems thinking, etc.) needed to realize the business benefit from intelligent machines?
- Are managers in the leadership pipeline receiving training and experiences that will prepare them to make the most of intelligent machines?

Business leadership



- Are division and business-unit leaders willing to accept decisions that optimize for the organization as a whole as opposed to favoring any specific group?
- Are they willing to share data openly so that all options (e.g., resource allocation) are evaluated seriously?

C-suite team



- Is the C-suite open to being observed and critiqued in terms of the team's decision-making dynamics?
- Will they trust machine-generated insights that conflict with long-held assumptions or conventional wisdom?
- Is the team willing to routinely revisit the consequences of their decisions – so as to enable machine-aided learning over time?

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Notes

¹ The World Economic Forum surveyed 800 executives to find that almost half of the respondents said they expect the first AI machine to be on a company's board by 2025. "Deep Shift: Technology Tipping Points and Societal Impact," Global Agenda Council on the Future of Software and Society Survey Report (September 2015): p. 7.

² From April 2014 through October 2015, the Accenture Institute for High Performance conducted 37 interviews with executives across seven industries and nine countries on the topic of leading the digital enterprise. In doing so, clients shared their experiences on their company's digital transformation efforts, industry developments, the evolution of their roles in relation to digital disruption, and how to keep up with increasingly tech-savvy employees and customers.

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